

AMENDMENTS TO THE SPECIFICATION

Please amend the section entitled ABSTRACT, as follows:

A system and method for identifying compatible threads in a Simultaneous Multithreading (SMT) processor environment is provided by calculating a performance metric, such as cycles per instruction (CPI) CPI, that occurs when two threads are running on the SMT processor. The CPI that is achieved when both threads were executing on the SMT processor is determined. If the CPI that was achieved is better than the compatibility threshold, then information indicating the compatibility is recorded. When a thread is about to complete, the scheduler looks at the run queue from which the completing thread belongs to dispatch another thread. The scheduler identifies a thread that is (1) compatible with the thread that is still running on the SMT processor (i.e., the thread that is not about to complete), and (2) ready to execute. The CPI data is continually updated so that threads that are compatible with one another are continually identified.